

EXERTIONAL HEAT ILLNESS FOLLOW-UP INSTRUCTIONS

TO THE PATIENT:

- ☐ You have suffered heat injury and require physical profile and follow-up by a physician, as well as reporting of this medical event through the EDC Clinic at Preventive Medicine.
- ☐ You need to continue to rest, maintain good hydration, and avoid exertion or other stress until your symptoms have completely cleared and you have been returned to duty by a physician (not a physician assistant).
- ☐ You should not try to perform any physical exertion or undergo any heat stress exposure, and are to remain on quarters, convalescent leave, or P4 profile until cleared both by a physician and EDC Clinic.
- ☐ Your appointment for follow-up is _____
- ☐ Once your symptoms have cleared you need to report to the EDC Clinic in Preventive Medicine (Bldg. 1-2539, 1st floor) near the corner of Hamilton and Randolph streets (up the street from Iron Mike, at the corner of the Polo Field – see enclosed map).
 - Males walk-in during morning hours: weekdays 0730 – 1030
 - Females call for a same-day afternoon appointment – 432-6925 or 432-9302EDC Clinic staff will review your history, check that your symptoms and laboratory tests have returned to normal, and collect information needed for required reporting to military public health authorities. They will also review your treatment, physical profile, and help with arrangements for Medical Evaluation Board, if needed.

TO THE FOLLOW-UP MEDICAL PROVIDER:

WAMC has standardized medical care for heat casualties in MEDCEN Memorandum No. 40-51 (available on the WAMC intranet site). Due to the subtleties of this illness and its potential serious consequences, follow-up care must be provided by a staff physician (not an intern or physician assistant). Disposition guidelines are summarized as follows:

- Follow-up labs should include electrolyte panel with creatinine and liver function panel with creatine kinase, along with other indicated tests (e.g., re-check previous abnormalities).
- Even in mildly ill patients, maximal exercise (e.g., APFT, Airborne operations, ruckmarching) should be avoided for several days. Provide appropriate profile.
- All patients should remain on quarters/convalescent leave or P-4(T) profile (sample enclosed) until all symptoms and laboratory tests have returned to 'normal' (e.g., CK <700, Cr <1.4), and EDC Clinic has cleared the patient. When fully recovered, the patient may then gradually resume exercise at own pace, building up slowly to maximal exercise. Provide appropriate profile.

DIAGNOSTIC CRITERIA FOR EXERTIONAL HEAT ILLNESS

AR 40-501 DEFINITIONS:

3.46.A Heat exhaustion: Collapse, including syncope, occurring during or immediately following exercise-heat stress without evidence of organ damage or systemic inflammatory activation.

3.46.B Heat stroke: (a) syndrome of hyperpyrexia, collapse, and encephalopathy with evidence of organ damage and/or systemic inflammatory activation occurring in the setting of environmental heat stress. (b) Exertional rhabdomyolysis: Rhabdomyolysis with myoglobinuria occurring with exercise-heat stress but without the encephalopathy of heat stroke.

TRI-SERVICE REPORTABLE EVENTS DEFINITIONS:

Heat Exhaustion: A variable combination of dizziness, fatigue, headache, thirst and GI distress with normal or slightly altered mental status and an elevated core body temperature. Reportable cases are those that require medical intervention and result in more than 4 hours of lost duty time.

Heat Stroke: Significantly altered mental status at presentation and/or elevation of muscle (CPK) and hepatic (ALT, AST) enzymes at 24 hours.

COL Gardner's Recommendations:

Heat stroke/rhabdomyolysis ought to be diagnosed when the patient, in the setting of heat exposure or exertion (documented elevated body temperature is not required), has any of the following (mental symptoms as reported by any witness or the patient):

- 1) persistent (at least 10-20 minutes) disorientation/confusion/combativeness.
- 2) delirium or obtundation beyond 3-5 minutes.
- 3) coma – unresponsiveness beyond the three minutes of a simple faint.
- 4) amnesia beyond 10-15 minutes immediately surrounding the event.
- 5) elevated CK>700, AST>60, ALT>60, or LDH>400 at 24 hours post-event, particularly if rising after initial values immediately following the event, or if associated with myoglobinuria (generally positive blood on dipstick, without excessive red cells).

Heat Exhaustion ought to be diagnosed for all other patients with exercise-related collapse/illness who require medical intervention (e.g., more than two liters of IV fluids) and/or more than one hour to recover (unable to return to work at light-duty within one hour).

EXERTIONAL HEAT ILLNESS REPORTING AND PROFILING / MEB

- a. All reporting shall be through the EDC Clinic. Patients needing reporting should be placed on P-4(T) profile/quarters/convalescent leave until cleared by the EDC Clinic, which will provide profiling and help arrange for MEB if needed.
- b. Heat exhaustion/exertional dehydration patients are **required to be reported if they require medical intervention and result in more than 4 hours of lost duty time.** “Single episodes of heat exhaustion are not cause for MEB referral. However, soldiers suffering from recurrent episodes of heat exhaustion (three or more in less than 24 months) should be referred for complete medical evaluation for contributing factors. If no remediable factor causing recurrent heat exhaustion is identified, then the soldier will be referred to an MEB.” (AR 40-501 para 3-46a)
- c. Heat stroke/rhabdomyolysis is defined by regulation (AR 40-501 para 3-46b) as “a syndrome of hyperpyrexia, collapse, and encephalopathy with evidence of organ damage and/or systemic inflammatory activation ... [or] rhabdomyolysis with myoglobinuria...” **All are required to be reported and referred to an MEB.** If the soldier has had full clinical recovery, the MEB should give a 3-month P-3(T) profile, which restricts the soldier from heat exposure and from performing vigorous physical exercise for periods longer than 15 minutes. Maximal efforts, such as the APFT 2-mile run and Airborne operations, are not permitted. If, after three months, the soldier has not manifested any heat intolerance, the profile will be modified to P-2(T) and normal work permitted. Maximal exertion and significant heat exposure (such as wearing MOPP IV) are still restricted. If the soldier manifests no heat intolerance through the next hot season, normal activities can be resumed and the soldier may be returned to full unrestricted duty without referral to a PEB. Lack of full recovery, or any evidence of significant heat intolerance during the period of the profile, requires referral to a PEB.

EXERTIONAL HEAT ILLNESS REFERRAL FOR MEB

Patient Name: _____

Date: _____

Patient SSN: _____

From: _____

To the Primary Care Provider:

This patient has suffered exertional heat stroke, rhabdomyolysis, or recurrent heat exhaustion and therefore **requires Medical Evaluation Board (MEB) per AR 40-501, ch 3-46** (copy enclosed). If it appears that this patient has had full clinical recovery, then a MEB must be performed in accordance with the regulation, which you need to assure is completed in a thorough and timely manner. Questions can be referred to the Preventive Medicine EDC Clinic (Mr. Oyler – 432-9302/6925 or COL Gardner – 396-1280/5022).

This MEB need not be a complicated process, and it can be conducted by any two physicians (preferably the primary care provider and one of his/her colleagues). The purpose of this MEB is not to process the patient for Physical Evaluation Board (PEB) and disability separation, but to protect the patient from further injury and assure that close medical monitoring is conducted over the next few months and through the next hot season.

The MEB requires a thorough history and physical exam to identify any associated infectious, metabolic, neurologic, or cardiovascular disease, with Internal Medicine consult and/or psychometric evaluation, if indicated. A specific format for the dictation is generally utilized (for help go to the WAMC intranet and search for MEB), but any narrative documentation of the complete history and physical exam (with conclusions and plan) will suffice. The MEB must be signed by two physicians and should be forwarded to the WAMC DCCS for signature.

The soldier must be profiled in accordance with the regulation (samples enclosed): The MEB will give a 3-month P-3(T) profile, which restricts the soldier from heat exposure and from performing vigorous physical exercise for periods longer than 15 minutes. Maximal efforts, such as the APFT 2-mile run and Airborne operations, are not permitted. If, after three months, the soldier has not manifested any heat intolerance, the profile will be modified to P-2(T) and normal work permitted. Maximal exertion and significant heat exposure (such as wearing MOPP gear) are still restricted. If the soldier manifests no heat intolerance through the next hot season, normal activities can be resumed and the soldier may be returned to full unrestricted duty without referral to a PEB.

The patient must be followed by the primary care provider at least every three months to renew the profiles per the regulation.

Lack of full recovery, or any evidence of significant heat intolerance during the period of the profile, requires referral to a PEB. If the illness appears to entail permanent or persistent medical problems with exercise, the patient should be given a permanent P3 profile and referred to the WAMC MEB Clinic for MEB processing and referral to a PEB (coordinator - Alice Dawson, 432-2847).

Heat Illness regulations -- AR 40-501

Ch 3-46. Heat illness and injury

The causes for referral to an MEB are as follows:

a. Heat exhaustion.

- (1) Definition: collapse, including syncope, occurring during or immediately following exercise-heat stress without evidence of organ damage or systemic inflammatory activation.
- (2) Single episodes of heat exhaustion are not cause for MEB referral. However, soldiers suffering from recurrent episodes of heat exhaustion (three or more in less than 24 months) should be referred for complete medical evaluation for contributing factors.
- (3) If no remediable factor causing recurrent heat exhaustion is identified, then the soldier will be referred to an MEB.

b. Heat stroke

(1) Definitions:

(a) Heat stroke: A syndrome of hyperpyrexia, collapse, and encephalopathy with evidence of organ damage and/or systemic inflammatory activation occurring in the setting of environmental heat stress.

(b) Exertional rhabdomyolysis: Rhabdomyolysis with myoglobinuria occurring with exercise-heat stress but without the encephalopathy of heat stroke.

- (2) Soldiers will be referred to an MEB after an episode of heat stroke or exertional rhabdomyolysis. If the soldier has had full clinical recovery, and particularly if a circumstantial contributing factor to the episode can be identified, the MEB may recommend a trial of duty with a P-3(T) profile. The profile will restrict the soldier from performing vigorous physical exercise for periods longer than 15 minutes. Maximal efforts, such as the Army Physical Fitness Test (APFT) 2-mile run are not permitted. If, after 3 months, the soldier has not manifested any heat intolerance, the profile may be modified to P-2(T) and normal unrestricted work permitted. Maximal exertion and significant heat exposure (such as wearing Mission oriented Protective Posture (MOPP) IV) are still restricted. If the soldier manifests no heat intolerance, including a season of significant environmental heat stress, normal activities can be resumed and the soldier may be returned to duty without a PEB. Any evidence of significant heat intolerance, either during the period of the profile or subsequently, requires an addendum to the MEB and referral to a PEB.